

REMARKS

I. Status of Claims

Claims 1-15 are pending in the application, and all the claims are rejected.

Claims 1, 2 and 6 are amended.

Support for the amendments to claim 1 can be found at least at the 2nd full paragraph at page 17, the 3rd full paragraph at page 18, and the 1st full paragraph at page 20 of the present specification.

Claims 2 and 6 are amended to correct minor typographical errors.

The Abstract of the Specification is amended to combine two separate paragraphs into one full paragraph

No new matter is added.

Entry of the Amendment is respectfully requested.

II. Response to Objection to the Specification

In response to the objection to the specification, the Abstract has been amended to be in the form of a single paragraph to conform with USPTO practice.

Withdrawal is respectfully requested.

III. Response to Claim Objections

In response to the claim objections, claims 2 and 6 have been amended to correct minor typographical errors. Withdrawal is respectfully requested.

IV. Response to Rejection of Claims under 35 U.S.C. § 112

Claims 1-15 were rejected under 35 U.S.C. §112, second paragraph, as allegedly being indefinite. Specifically, the Examiner objected to claim 1, because it is unclear whether it is water or the catalyst that is not subject to the heavy metal treatment step. The Examiner further

considered that the limitation of claim 9 “without drying the catalyst before installation” contradicts claim 1 which recites a step for “removing water from the catalyst.”

In response, claim 1 has been amended to recite “without performing a heavy metal treatment step on the regeneration water” as described in the first full paragraph at page 20 of the specification.

Turning now to claim 9, at the third paragraph of page 18 of the present specification states that:

“After complete immersion, the NO_x removal catalyst layer 14 is removed from regeneration water, and water is removed from the catalyst layer. No particular drying step is required.”

That is, “removing water” also refers to draining residual water from the catalyst layer, or allowing *some* water to remain which would not involve any drying. Accordingly, claim 1 has been further amended to recite “removing water from the catalyst without drying the catalyst” so as to be consistent with claim 9.

It is respectfully submitted that the claims as amended fully comply with 35 U.S.C. § 112, and withdrawal of the foregoing rejection is respectfully requested.

V. Response to Rejection of Claims under 35 U.S.C. § 103

A. Claims 1-11 were rejected under 35 U.S.C. §103(a) as being unpatentable over Dittmer, et al. (U.S. Patent No. 6,241,826), optionally in view of Schneider, et al. (U.S. Patent No. 6,232,254).

Applicants respectfully traverse, at least for the following reasons.

Upon entry of the present amendment, claim 1 is directed to a method for regenerating an NO_x removal catalyst employed in a flue gas NO_x removal apparatus. A characteristic feature of

the method is that it comprises a regeneration step, which includes immersing the NO_x removal catalyst for 1 to 30 minutes at ambient temperature in regeneration water containing substantially no chlorine and no cleaning component, removing the catalyst from the regeneration water, removing any residual water from the catalyst without drying the catalyst, and a treatment step including treating the regeneration water which has been employed in the regeneration step in an ordinary wastewater treatment facility without performing a heavy metal treatment step on regenerating water.

Although Dittmer may disclose a NO_x removal catalyst regeneration method in which a NO_x removal catalyst is immersed in room temperature regeneration water containing substantially no chlorine or cleaning component, followed by removal of the NO_x and draining off of any excess water, an Exemplary Embodiment in which the treatment is carried out has a dwell time of 4 to 6 hours. Furthermore, the invention of Dittmer requires the use of an ultrasound treatment in addition to the steps disclosed above. Additionally, Dittmer discloses that the cleaning liquid, as a rule water, can also have chemicals added to improve the separation of poorly soluble contaminants and catalyst poisons, such as lyes, acids, surfactants, or complexing agents.

In view of the above, the presently claimed invention is distinguishable over Dittmer at least because the time of immersion of the NO_x catalyst in the regeneration fluid in the presently claimed invention is substantially different from that disclosed by Dittmer. Additionally, the presently claimed invention has been accomplished on the basis of the finding that the catalytic activity of the NO_x removal catalyst, particularly that of an NO_x removal catalyst which has been used with NO_x removal apparatus for a flue gas from a boiler employing coal as a fuel, can be

sufficiently restored by merely immersing the catalyst in pure water at ambient temperature, that the used catalyst regeneration water can be repeatedly used, and that the reused water can be treated in a comparatively simple manner by virtue of containing no heavy metals.

In view of the above, Applicant respectfully submits that the presently claimed invention is patentably distinguishable over Dittmer. Furthermore, Schneider does not cure the above-noted deficiency of Dittmer. Therefore, a person of ordinary skill in the art could not arrive at the presently claimed invention with a reasonable expectation of success by combining Dittmer and Schneider.

Therefore, Applicant respectfully requests reconsideration and withdrawal of the §103 rejection of claims 1-11 based on Dittmer in view of Schneider.

B. Claims 12-15 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Dittmer and optionally Schneider as applied to claims 1-11 above, and further in view of Sueyoshi, et al. (JP 53-125964).

Claims 12-15 are patentable, at least by virtue of their dependence from claim 1, and Applicant's arguments presented above. Furthermore, Sueyoshi does not cure the deficiency of Dittmer in view of Schneider.

Therefore, Applicant respectfully requests reconsideration and withdrawal of the §103 rejection of claims 12-15 based on Dittmer in view of Schneider, and further in view of Sueyoshi.

Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the

Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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